

FINAL BRIDGE PROJECT RUBRIC

	High Mastery	Mastery	Approaching Mastery	Low Mastery	No Mastery	
Bridge Design Difficulty	Bridge design utilizes multiple notches and crosses in the design and includes an undertruss	Bridge utilizes principals of bridge engineering discussed in class including notching and milltering.	Design uses basic butting and milltering or uses notching sparingly	Design is simple; does not include any notching or crosses	Bridge design is a sample design from the software program	/10
Bridge Design Creativity	Design is unique and original while still being practical.	Design is unique and interesting	Design is original but not unique	Design is simple and is not creative	Bridge design is from the software program	/10
Bridge Building Specifications	All specs are met and are achieved without assistance from teacher	L = 12 in W = 2.75 in H= 2.5-3.5 in	All specs are met within a slight margin or group needed assistance from teacher	2 out of the 3 specs are met	One or zero of the specs are met.	/10
Bridge Construction on overall Quality	The bridge is extremely sturdy, all notches, corners and angles are perfect and are built using notching with no butting, no visible glue, no pencil marks.	Construction is clean and sturdy, all notches, corners and angles are tight and there is no visible glue	Construction is clean and sturdy, there may be some visible glue or small imperfections in the construction	Visible glue and or multiple construction imperfections	The bridge is not sturdy due to construction imperfections.	/10
Bridge Side Similarity	The two sides are completely identical	The two bridge sides are constructed identically with only very slight variance.	The two sides have slight variance but will not affect the connection.	The two sides are varied in a way that will result in uneven connection	The two sides are varied significantly and will result in uneven connection and inevitably low strength.	/10
Bridge Supplies	Bridge is constructed with given materials and group keeps the materials in mind when building and designing bridge	Bridge is constructed with given materials (12 pieces of wood, 1 bottle of elmers glue and uses assistance materials: tacks, sand paper, rubberbands, tape) and produces little to no excess	Bridge is constructed with given materials but produces excess waste wood	Group required 1 additional piece of wood or pouring of glue to complete the bridge.	Group required multiple pieces of wood to complete the bridge	/10
Road Bed Design and Construction	The road bed is thoughtfully designed, enhances the bridge strength, is symmetrical and matches the design of the bridge.	The road bed is designed thoughtfully and carefully to meet the specs and enhance bridge strength.	The road bed provides the necessary strength but is not thoughtfully designed.	The road bed consists of the left over supplies thrown onto the bridge in a messy or haphazard way.	The road bed is only the points of connection.	/10
Strength Rating	All of the bridges in each class will be competing against each other. High mastery is for the 1 st Place winner!	The second finishing group for strength. (most likely 2 nd + 3 rd place)	The third finishing group (most likely 4-6 th place)	The fourth finishing group (most likely 7 th -10 th place)	The bridge did not support the testing block and supplies	/10
Strength Prediction	The group predicted exactly the number of cans their bridge would hold!	The group predicted how many cans their bridge would hold within 2	The group was within 5 cans for their prediction	The group was within 8 cans	The group was off by 10 or more cans	/10
Group Grade	The group excelled with communication and collaboration throughout the entire design and bridge building process.	The group worked well together through all parts of the bridge building process. There was clear communication and collaboration.	The group worked together to complete the task but did not thoroughly collaborate to complete the task, or were off task at times due to their personal relationship.	The group did not collaborate and communicate well during the building task or could not focus on the task, were distracted by their friendship or lack thereof.	The group did not work well together and as a result could not complete their bridge.	/10